

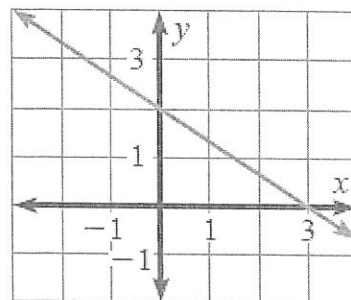
Unit 4... Writing Linear Equations (Keystone Review)**Part 4.1 – Writing Linear Equations in Slope-Intercept Form (Given slope and y-intercept)**

_____ 1) Which is an equation of a line whose slope is $\frac{2}{3}$ and y-intercept is -7 ?

- A) $y = -7x + \frac{2}{3}$ B) $y = 7x - \frac{2}{3}$ C) $y = \frac{2}{3}x + 7$ D) $y = \frac{2}{3}x - 7$

_____ 2) Which is an equation of the line shown in the graph to the right?

- A) $y = -\frac{3}{2}x + 2$ B) $y = -\frac{2}{3}x + 2$
 C) $y = \frac{3}{2}x + 2$ D) $y = \frac{2}{3}x + 2$



_____ 3) Suppose that bike rentals cost \$4 plus \$1.50 per hour. Which equation models the total cost y of renting a bike for x hours?

- A) $y = 1.5x + 4$ B) $y = 6.5x$ C) $y = 4x + 1.5$ D) $4x = 1.5y$

_____ 4) Find the slope of the line whose equation is $y = \frac{4}{3}x - 1$.

- A) -1 B) $\frac{4}{3}$ C) $-\frac{4}{3}$ D) 1

_____ 5) Find the y-intercept of the line whose equation is $4x - 16y = 80$.

- A) $(0, 20)$ B) $(0, -5)$ C) $(0, -20)$ D) $(0, 5)$

_____ 6) Which equation is the slope-intercept form of $50x - 10y = 400$?

- A) $y = -5x - 40$ B) $y = \frac{1}{5}x - 40$
 C) $y = 5x - 40$ D) $y = -\frac{1}{5}x - 40$

_____ 7) The U.S. Bureau of the Census predicted that the population of Florida would be about 17.4 million in 2010 and then would increase by about 0.22 million per year until 2025. Choose the linear model that predicts the population P of Florida (in millions) in terms of t , the number of years since 2010.

A) $P = 17.4t + 0.22$

B) $P = -0.22t + 17.4$

C) $P = 0.22t + 17.4$

D) $P = -17.4t + 0.22$

Part 4.2 – Writing Linear Equations in Slope-Intercept Form (Given slope and a point / parallel lines)

_____ 8) Write an equation of the line, in slope-intercept form, given $m = -3$ and passes through the point $(2, 5)$.

A) $y = -3x + 2$

B) $y = 2x + 5$

C) $y = -3x + 11$

D) $y = -3x - 1$

_____ 9) Write an equation of the line, in slope-intercept form, given $m = -2$ and passes through the point $(-5, 18)$.

A) $y = -2x + 10$

B) $y = -2x + 8$

C) $y = -2x + 6$

D) $y = 4x - 4$

_____ 10) For the equation $y = -7x + 1$, determine the slope of a line parallel to it.

A) $\frac{1}{7}$

B) $-\frac{1}{7}$

C) 7

D) -7

_____ 11) Write an equation of the line, in slope-intercept form, given $m = -\frac{2}{3}$ and passes through the point $(-2, 2)$.

A) $y = \frac{2}{3}x + \frac{2}{3}$

B) $y = -\frac{2}{3}x - \frac{2}{3}$

C) $y = -\frac{2}{3}x + \frac{2}{3}$

D) $y = -\frac{3}{2}x + \frac{3}{2}$

_____ 12) Write the equation of the horizontal line that passes through $(0.5, 3.5)$

A) $x = \frac{1}{2}$

B) $x = \frac{7}{2}$

C) $y = \frac{1}{2}$

D) $y = \frac{7}{2}$

_____ 13) Which linear equation has an undefined slope and passes through the point $(-1, 7)$?

A) $y = -x + 7$

B) $y = 7x - 1$

C) $x = -1$

D) $y = 7$

- _____ 14) A sports park charges a flat rate for birthday parties, plus \$5 per guest. A party with 17 guests cost \$155. Which equation represents the cost y of a birthday party for x guests?
- A) $y = 5x + 85$ B) $y = 5x + 155$ C) $y = 5x + 70$ D) $y = 5x + 17$
- _____ 15) A tennis center charges \$280 for 8 lessons. The tennis center also charges a membership fee plus \$20 per lesson. Which equation represents the cost y of a tennis membership and x lessons at the center?
- A) $y = 20x + 280$ B) $y = 20x + 160$
 C) $y = 8x + 280$ D) $y = 20x + 120$

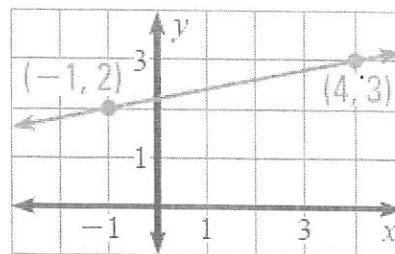
Part 4.3 – Writing Linear Equations in Slope-Intercept Form (Given two points / perpendicular lines)

- _____ 16) A software company started with 2 employees. In 6 months, the company had 7 employees. The number of employees increased at a steady rate. Which equation models the relationship between the number of employees n and the number of months m since the company started?
- A) $n = \frac{5}{6}m + 2$ B) $m = 2n + \frac{5}{6}$ C) $n = \frac{6}{5}m + 2$ D) $m = \frac{5}{6}n + 2$
- _____ 17) Choose which lines are perpendicular.
- ★ Line p passes through $(4, 0)$ and $(6, 4)$
 - ★ Line q passes through $(0, 4)$ and $(6, 4)$
 - ★ Line r passes through $(0, 4)$ and $(0, 0)$
- A) line p and line q B) line p and line r C) line q and line r D) none
- _____ 18) What is the equation of the line that passes through the points $\left(3\frac{1}{2}, 4\right)$ and $\left(-5, -\frac{9}{2}\right)$?
- A) $y = -x + \frac{1}{2}$ B) $y = x + \frac{1}{2}$ C) $y = \frac{1}{2}x + 1$ D) $y = -\frac{1}{2}x + 1$
- _____ 19) Determine the slope of a line perpendicular to the line $y - 2 = -4x$
- A) -4 B) 2 C) $\frac{1}{2}$ D) $\frac{1}{4}$

_____ 20) What is the equation of the line shown in the graph?

A) $y = 5x + 11$ B) $y = 5x + 17$

C) $y = \frac{11}{5}x + \frac{1}{5}$ D) $y = \frac{1}{5}x + \frac{11}{5}$



_____ 21) The table shows the U.S. Postal Service cost for sending media mail (small and large packages of books, film, manuscripts, sound recordings, video tapes, and computer readable media such as CDs, DVDs, and diskettes). Using the data to the right, which equation represents the cost y of sending x pounds of media mail?

A) $y = 1.88x + 0.35$

B) $y = \frac{1}{0.35}x + 0.7805$

C) $y = 0.35x + 1.88$

D) $y = -0.35x + 2.58$

Weight Not Over (pounds)	Cost
1	\$2.23
2	\$2.58
3	\$2.93
4	\$3.28
5	\$3.63
6	\$3.98

_____ 22) It costs \$45 to rent a surfboard for 3 days. It costs \$70 to rent a surfboard for 8 days. Which equation represents the cost y (in dollars) of renting a surfboard for x days?

A) $y = 30x + 5$

B) $y = 5x + 30$

C) $y = \frac{1}{5}x + 44\frac{2}{5}$

D) $y = \frac{1}{5}x - 6$

Part 4.4 – Point-Slope Form of a Linear Equation

_____ 23) The time t (in hours) needed to produce x units of a product is modeled by $t = px + s$. If it takes 265 hours to produce 200 units and 390 hours to produce 300 units, what is the value of s ?

A) 1.25

B) 15

C) 100

D) 125

_____ 24) What is the slope of the graph of $y - 8 = \frac{1}{2}(x + 2)$?

A) -8

B) $\frac{1}{2}$

C) 2

D) $-\frac{1}{2}$